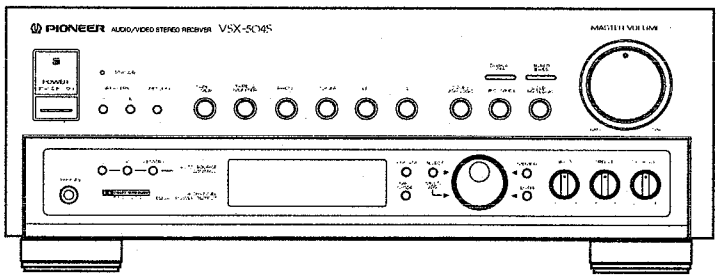
Operating Instructions

AUDIO/VIDEO STEREO RECEIVER

VSX-504S



Thank you for buying this Pioneer product.
Please read through these operating instructions so you will know how to operate your model properly. After you have finished reading the instructions, put them away in a safe place for future reference.
In some countries or regions, the shape of the power plug and power outlet may sometimes differ from that shown in the explanatory drawings. However, the method of connecting and operating the unit is the same.

IMPORTANT NOTICE

[For U.S. and Canadian models]

The serial number for this equipment is located on the rear panel. Please write this serial number on your enclosed warranty card and keep it in a secure area. This is for your security.

[For Canadian model]

CAUTION: TO PREVENT ELECTRIC SHOCK DO NOT USE THIS (POLARIZED) PLUG WITH AN EXTENSION CORD, RECEPTACLE OR OTHER OUTLET UNLESS THE BLADES CAN BE FULLY INSERTED TO PREVENT BLADE EXPOSURE.

ATTENTION: POUR PREVENIR LES CHOCS ELECTRIQUES NE PAS UTILISER CETTE FICHE POLARISEE AVEC UN PROLONGATEUR, UNE PRISE DE COURANT OU UNE AUTRE SORTIE DE COURANT, SAUF SI LES LAMES PEUVENT ETRE INSEREES A FOND SANS EN LAISSER AUCUNE PARTIE A DECOUVERT.

DEMO MODE

- The demonstration mode is activated by turning on the power switch while holding down the RETURN button (from power standby condition). The demonstration will appear on the display.
- Press any button to cancel the demonstration. Activating the demonstration mode causes memory contents to return to their original default condition, except the tuner.

WARNING : TO PREVENT FIRE OR SHOCK HAZARD, DO NOT EXPOSE THIS APPLIANCE TO RAIN OR MOISTURE.

RETURN function

This function returns the unit to its initial settings with the tuner ready to receive a broadcast. This is helpful during troubleshooting or when no sound is output. For details, refer to page 13.

PIONEER®
The Art of Entertainment

IMPORTANT

The lightning flash with arrowhead, within an equilateral triangle, is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.

CAUTION
RISK OF ELECTRIC SHOCK DO NOT OPEN

CAUTION:
TO PREVENT THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE COVER (OR BACK). NO USER-SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.

The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

SAFETY INSTRUCTIONS

READ INSTRUCTIONS – All the safety and operating instructions should be read before the appliance is operated.
RETAIN INSTRUCTIONS – The safety and operating instructions should be retained for future reference.
HEED WARNING – All warnings on the appliance and in the operating instructions should be adhered to.
FOLLOW INSTRUCTIONS – All operating and use instructions should be followed.
WATER AND MOISTURE – The appliance should not be used near water – for example, near a bathtub, washbowl, kitchen sink, laundry tub, in a wet basement, or near a swimming pool, etc.
LOCATION – The appliance should be installed in a stable location.
WALL OR CEILING MOUNTING – The appliance should not be mounted to a wall or ceiling.
VENTILATION – The appliance should be situated so that its location or position does not interfere with its proper ventilation. For example, the appliance should not be situated on a bed, sofa, rug, or similar surface that may block the ventilation openings; or, placed in a built-in installation, such as a bookcase or cabinet that may impede the flow of air through the ventilation openings.
HEAT – The appliance should be situated away from heat sources such as radiators, heat registers, stoves, or other appliances (including amplifiers) that produce heat.
POWER SOURCES – The appliance should be connected to a power supply only of the type described in the operating instructions or as marked on the appliance.
POWER-CORD PROTECTION – Power-supply cords should be routed so that they are not likely to be walked on or pinched by items placed upon or against them. Pay particular attention to cords at plugs, convenience receptacles, and the point where they exit from the appliance.
POLARIZATION – If your purchased product is provided with a polarized power plug, please read the following instructions. This product is equipped with a polarized alternating current line plug (a plug having one blade wider than the other). This plug will fit into the power outlet only one way. This is a safety feature. If you are unable to insert the plug fully into the outlet, try reversing the plug. If the plug should still fail to fit, contact your electrician to replace your obsolete outlet. Do not defeat the safety purpose of the polarized plug.
CLEANING – The appliance should be cleaned only with a polishing cloth or a soft dry cloth. Never clean with furniture wax, benzine, insecticides or other volatile liquids since they may corrode the cabinet.

POWER LINES – An outdoor antenna should be located away from power lines.
NONUSE PERIODS – The power cord of the appliance should be unplugged from the outlet when left unused for a long period of time.
OBJECT AND LIQUID ENTRY – Care should be taken so that objects do not fall and liquids are not spilled into the enclosure through openings.
DAMAGE REQUIRING SERVICE – The appliance should be serviced by a Pioneer authorized service center or qualified service personnel when:
- The power-supply cord or the plug has been damaged.
- Objects have fallen, or liquid has been spilled into the appliance.
- The appliance has been exposed to rain.
- The appliance does not appear to operate normally or exhibits a marked change in performance.
- The appliance has been dropped or the enclosure damaged.

SERVICING – The user should not attempt to service the appliance beyond that described in the operating instructions. All other servicing should be referred to qualified service personnel.

OUTDOOR ANTENNA GROUNDING – If an outside antenna is connected to the antenna terminal, be sure the antenna system is grounded so as to provide some protection against voltage surges and built-up static charges.
In the U.S.A. section 810 of the National Electrical Code, ANSI/NFPA 70, provides information with respect to proper grounding of the mast and supporting structure, grounding of the lead-in wire to an antenna discharge unit, size of grounding conductors, location of antenna discharge unit, connection to grounding electrodes, and requirements for the grounding electrode. See Fig. A.
CART – An appliance and cart combination should be moved with care. Quick stops, excessive force, and uneven surfaces may cause the appliance and cart combination to overturn.

NEC – NATIONAL ELECTRIC CODE

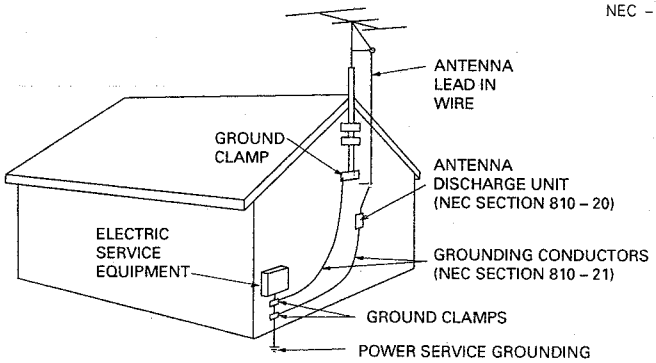

ANTENNA LEAD IN WIRE
GROUND CLAMP
ANTENNA DISCHARGE UNIT (NEC SECTION 810 – 20)
ELECTRIC SERVICE EQUIPMENT
GROUNDING CONDUCTORS (NEC SECTION 810 – 21)
GROUND CLAMPS
POWER SERVICE GROUNDING ELECTRODE SYSTEM (NEC ART 250, PART H)

FIG. A

Information to User

Alteration or modifications carried out without appropriate authorization may invalidate the user's right to operate the equipment.

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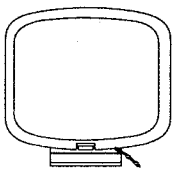
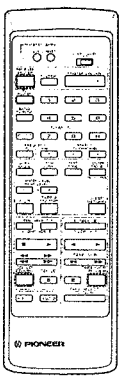
ACCESSORY ITEMS

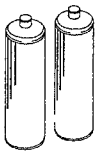
FM antenna



AM Loop Antenna



Remote control unit



Dry cell battery
(size "AAA" IEC LR03/AM-4) X 2

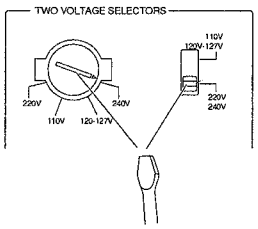
BEFORE OPERATING , ADJUST THE POSITION OF THESE SWITCHES

TWO VOLTAGE SELECTOR SWITCHES (Not available on U.S. and Canadian models)

Only multi-voltage models are provided with these switches. U.S. and Canadian models are not provided with these switches. Mains voltages in Saudi Arabia are 127 V and 220 V only. Never use this model with the 110 V setting in Saudi Arabia.

The line voltage selector switches are on the rear panel. Before your model is shipped from the factory, these switches are set to the power requirements of the destination. Check that they are set properly before plugging the power cord into the household wall socket. If the voltage is not properly set or if you move to an area where the voltage requirements differ, adjust the selector switches as follows.

1. Use a medium-size screwdriver.
2. First, insert the screwdriver in the groove of the voltage selector at the right, and adjust so that the tip of the groove points to the voltage value of your area.
3. Next, insert the screwdriver in the groove of the voltage selector at the left and adjust until the voltage is the same as at the right.



Medium-size screwdriver

CHANNEL STEP SWITCH (Not available on U.S. and Canadian models)

The unit has been factory preset to the channel allocation value for the area in which it is to be sold. If this value is set incorrectly, the tuned in frequency may be wrong , or sound may be distorted, resulting in an inability to reproduce reception signals at their proper sound quality. For this reason, be sure to confirm that the values are set correctly before first using the unit.

(FM 100 kHz/AM 10 kHz) position:

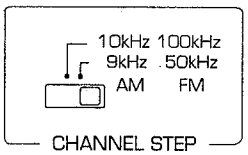
Set to this position for areas with an FM reception step of 100 kHz and AM 10 kHz.

(FM 50 kHz/AM 9 kHz) position:

Set to this position, for areas with an FM reception step of 50 kHz and AM 9 kHz.

NOTE:

When unsure about the channel allocation for your area, consult your dealer for correct information.



SURROUND EFFECT

This unit has a built-in surround processor for adding presence and an expansive effect to the sound.

STUDIO:

Select this position to enjoy the effect of listening to music in a recording studio.
The actual source sound is output through the front speakers, and the added reverberated sound is output through the rear speakers.
This is particularly suitable for a source that has a lot of reverberation.

SIMULATED SURROUND:

The "SIMULATED SURROUND" creates the effects of reverberated and reflected sound from the walls and ceiling similar to a concert hall. These sound-effects added to the actual sound from the source make you feel as if you were in a more expanded space. The different ranges of the expanded space can be set by the DELAY TIME button.
Set the Delay Time to 15 ms or 20 ms for a live-house concert. For chamber music, set to 20 ms. For orchestral music, set to 30 ms. The "SIMULATED SURROUND" also gives effects on monaural sources by outputting the added reverberated sound from the rear speakers while outputting the actual source sound from the front speakers. Turn on the "SIMULATED SURROUND" for a monaural source to gain effective surround playback.

ARENA:

This is ideal for sources such as live performances. Music is output from the front speakers and the sounds and applause of the audience are output through the rear speakers.
Adjusting the delay time provides the effects of listening in halls of different sizes.

DOLBY* PRO-LOGIC SURROUND:

Choose this setting for movies and music (especially Video Discs and video tapes bearing the DOLBY SURROUND mark) playback. DOLBY PRO-LOGIC SURROUND continuously detects the size and direction of the dominant signal and cancels undesirable crosstalk, thereby providing signal emphasis. It makes you clearly perceive the directional source of the music. Real flow of sound also can be re-created naturally using this feature. You can feel as if being in an outstanding and expansive sound field. When using DOLBY PRO-LOGIC SURROUND, a delay time setting of 20 ms is commonly used. Use a different setting if you prefer. Even if the video recordings do not bear the DOLBY SURROUND mark, some of them may be Dolby Surround encoded. Choose the SIMULATED SURROUND mode if the source sound signal is mono. Little or no sound will be heard from the surround speakers if the DOLBY PRO-LOGIC SURROUND mode is selected. With DOLBY PRO-LOGIC SURROUND, monaural source sound will be heard only from the center channel at settings other than the PHANTOM position.

> ***Note:***
> *Dolby Surround will not operate correctly if the signal passes through a graphic equalizer. When using Dolby Surround, turn off the TAPE 2 MONITOR or set the graphic equalizer for flat response or to its "through" (or off) setting, if you have one in use.*

*
Manufactured under license from Dolby Laboratories Licensing Corporation. Additionally licensed under Canadian patent number 1,037,877. "Dolby", the double-D symbol and "Pro Logic" are trademarks of Dolby Laboratories Licensing Corporation.

DOLBY 3CH LOGIC

Combining the rear speaker signal with that of the front speakers results in your being able to enjoy a regenerated sound field which has comparatively more presence and a more expansive feeling from the front 3 channels (front L, front R, and center speakers) than that of ordinary stereo regeneration. DOLBY 3CH LOGIC can be used with stereo sources not encoded with DOLBY SURROUND.

DOLBY PRO-LOGIC SURROUND, DOLBY 3CH LOGIC CENTER MODE

(For DOLBY PRO-LOGIC SURROUND and DOLBY 3CH LOGIC)

You can choose from the following settings:

Center Mode Choices:

When using a center speaker:

- **NORMAL**—Low range frequencies, which have little effect on directionality and positioning, are routed to the left and right front speakers. This allows you to use a relatively small size speaker as the center speaker.
- **WIDE**—If you use a large size center speaker, choose this setting. The full frequency range of the Dolby Surround center channel, is routed to the center speaker.

When not using a center speaker: DOLBY PRO-LOGIC SURROUND only

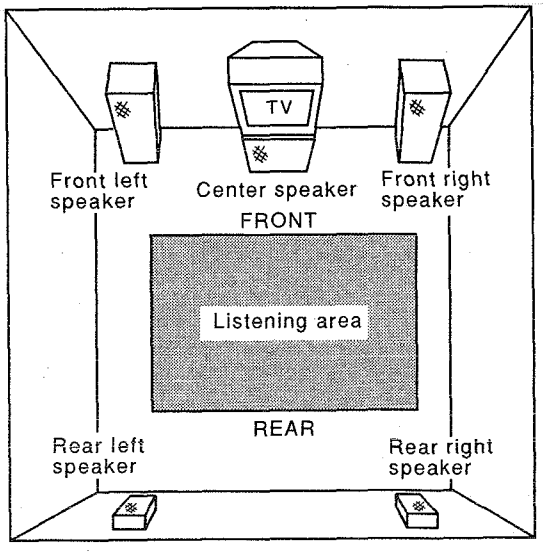
- **PHANTOM**—The signal which would have been sent to the center speaker is divided equally between the left and right front speakers.

With DOLBY PRO-LOGIC SURROUND, monaural source sound will be heard only from the center channel at settings other than the PHANTOM position.

SPEAKER INSTALLATION

To get the most out of the surround system, place the speakers as shown below.

An example of speaker location



If the rear speakers are positioned at an extreme distance from the front and center speakers, the surround level becomes unable to adjust and the surround effect will not be fully achieved.

NOTE:

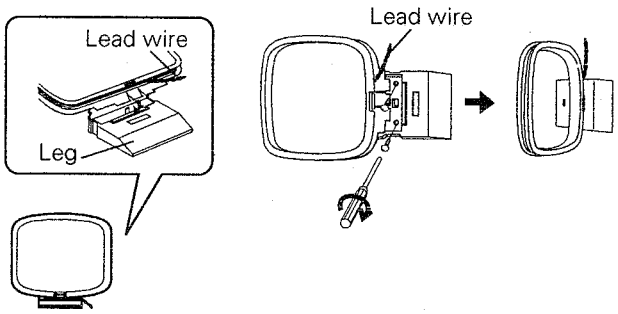
- *To avoid interference with the picture on a nearby TV set, use magnetically shielded speaker systems. This is particularly important for the center speaker since it is usually located closest to the TV.*
- *Position the left and right channel speakers at equal distances from the TV set and approximately 1.8 m (6 feet) from each other.*
- *Position the center speaker above, below, or behind the TV set. Sound may not appear to coincide with the picture if you position it next to the TV set.*
- *Rear speakers are best positioned slightly above ear level.*

CONNECTIONS

Alambre conductor

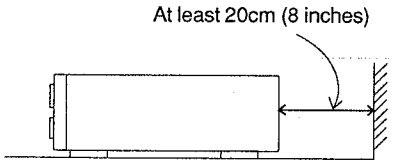
Setting Up the AM Antenna

- Insert the claw on the bottom of the antenna into the groove in the leg.
- Place the antenna on a level surface and rotate it to locate the orientation that yields the best reception.
- Use the attachment hole in the leg to screw to a wall or other location, then insert the claw on the bottom of the antenna into the groove in the leg (fixing the antenna in the direction that gives the best reception.)



Installation Precautions

- The rear panel vents are designed to disperse heat from the unit. Be careful that curtains or other items do not block the vents.
- To improve heat dispersion, set the unit so that it is at least 20 cm (8 inches) away from the wall.

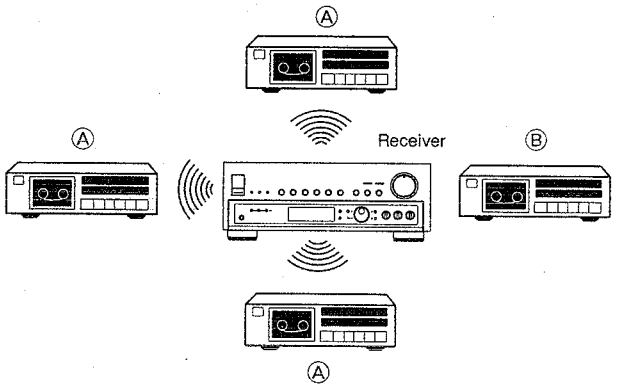


POWER-CORD CAUTION

Handle the power cord by the plug. Do not pull out the plug by tugging the cord and never touch the power cord when your hands are wet as this could cause a short circuit or an electric shock. Do not place the unit, a piece of furniture, etc., on the power cord, or pinch the cord. Never make a knot in the cord or tie it with other cords. The power cords should be routed such that they are not likely to be stepped on. A damaged power cord can cause a fire or give you an electrical shock. Check the power cord once in a while. When you find it damaged, ask your nearest PIONEER authorized service center or your dealer for a replacement.

Precaution regarding installation position of cassette deck

If the cassette deck is installed in the Ⓐ positions shown in the drawing below, it may be adversely affected during playback. If possible, it's better to install it in the Ⓑ position.



AUDIO SYSTEM CONNECTIONS

Illustration shows Multi-voltage model.

NOTE FOR FM ANTENNA:

Stretch the antenna out to its full length, and affix it to a wall, etc.

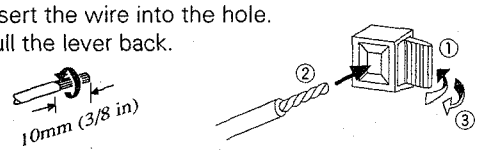
NOTE FOR AM LOOP ANTENNA:

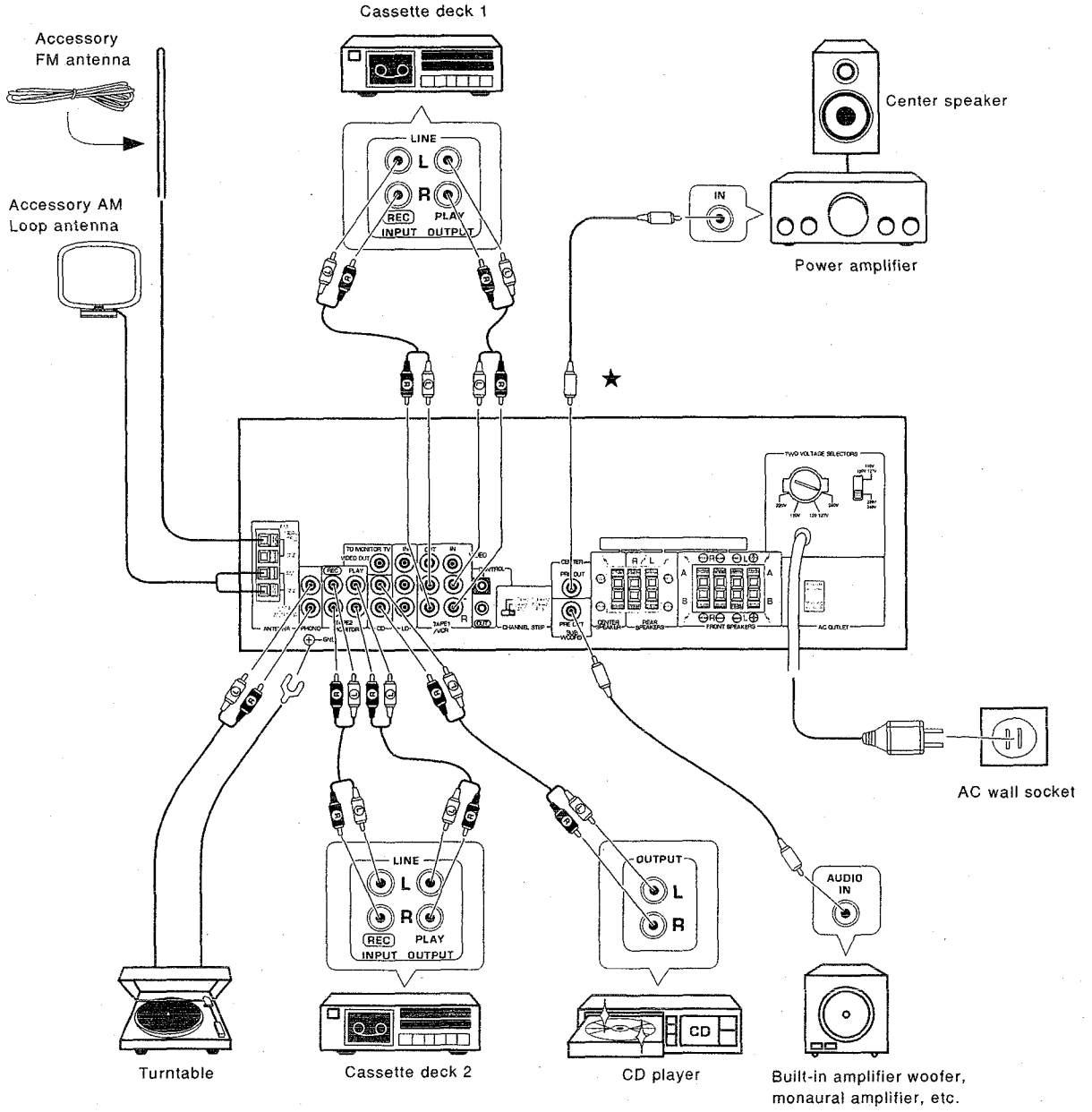
The antenna should be placed at a distance from the receiver, and should not be allowed to touch metallic objects. Avoid placing it near CD players, personal computers, television sets, and other devices generating radio frequencies.

★ Use if you want an additional power amplifier to boost center channel power output.

AM loop antenna and FM antenna connection

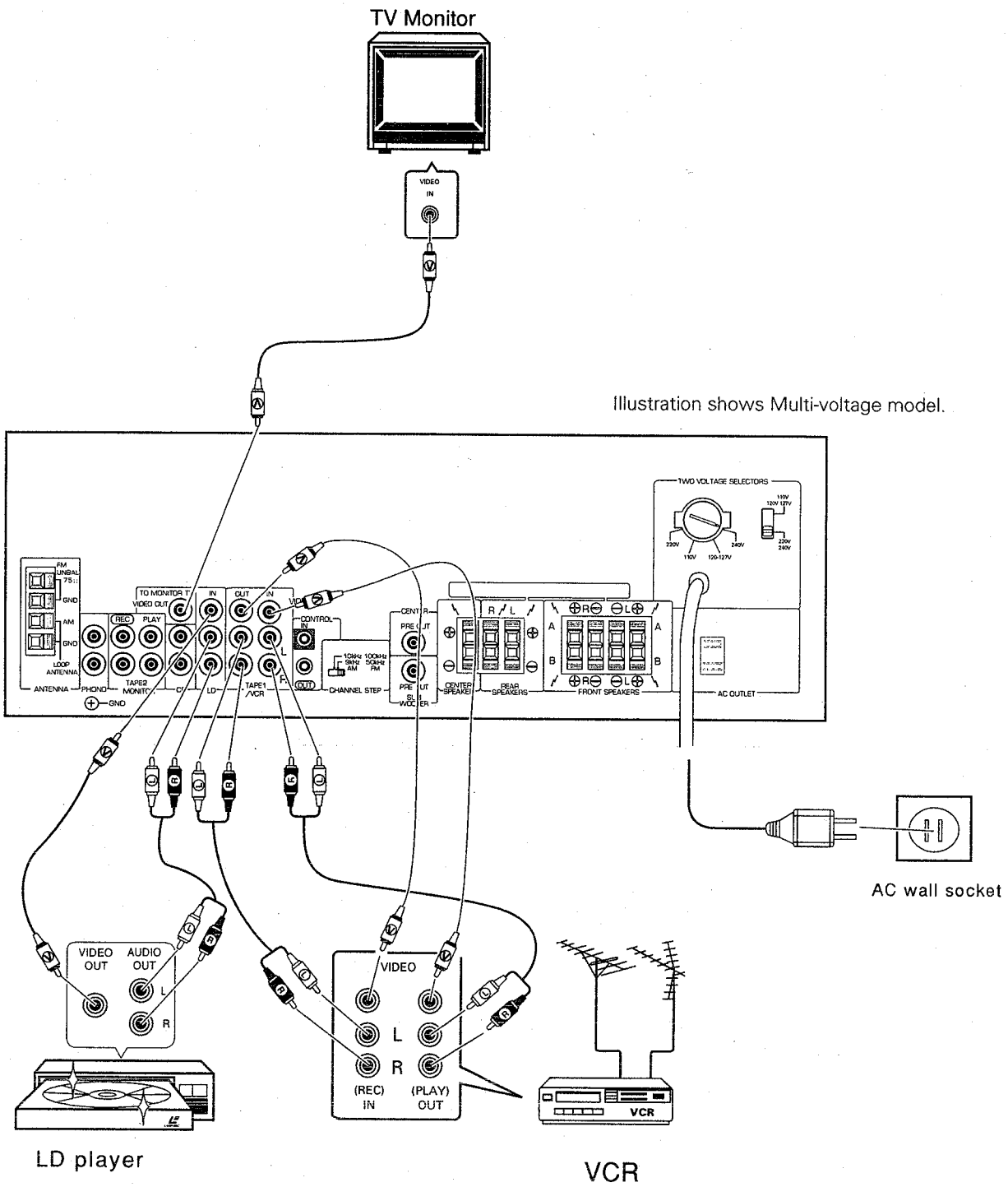
① Push the lever.
② Insert the wire into the hole.
③ Pull the lever back.





To connect the Pioneer S-W1000 Powered Subwoofer, connect the receiver's subwoofer output to the subwoofer's input.

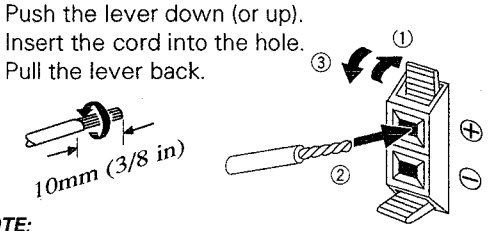
VIDEO SYSTEM CONNECTIONS



SPEAKER CONNECTIONS

Speaker cord connection

① Push the lever down (or up).
② Insert the cord into the hole.
③ Pull the lever back.



NOTE:

Use speakers with an impedance of 8Ω to 16Ω.

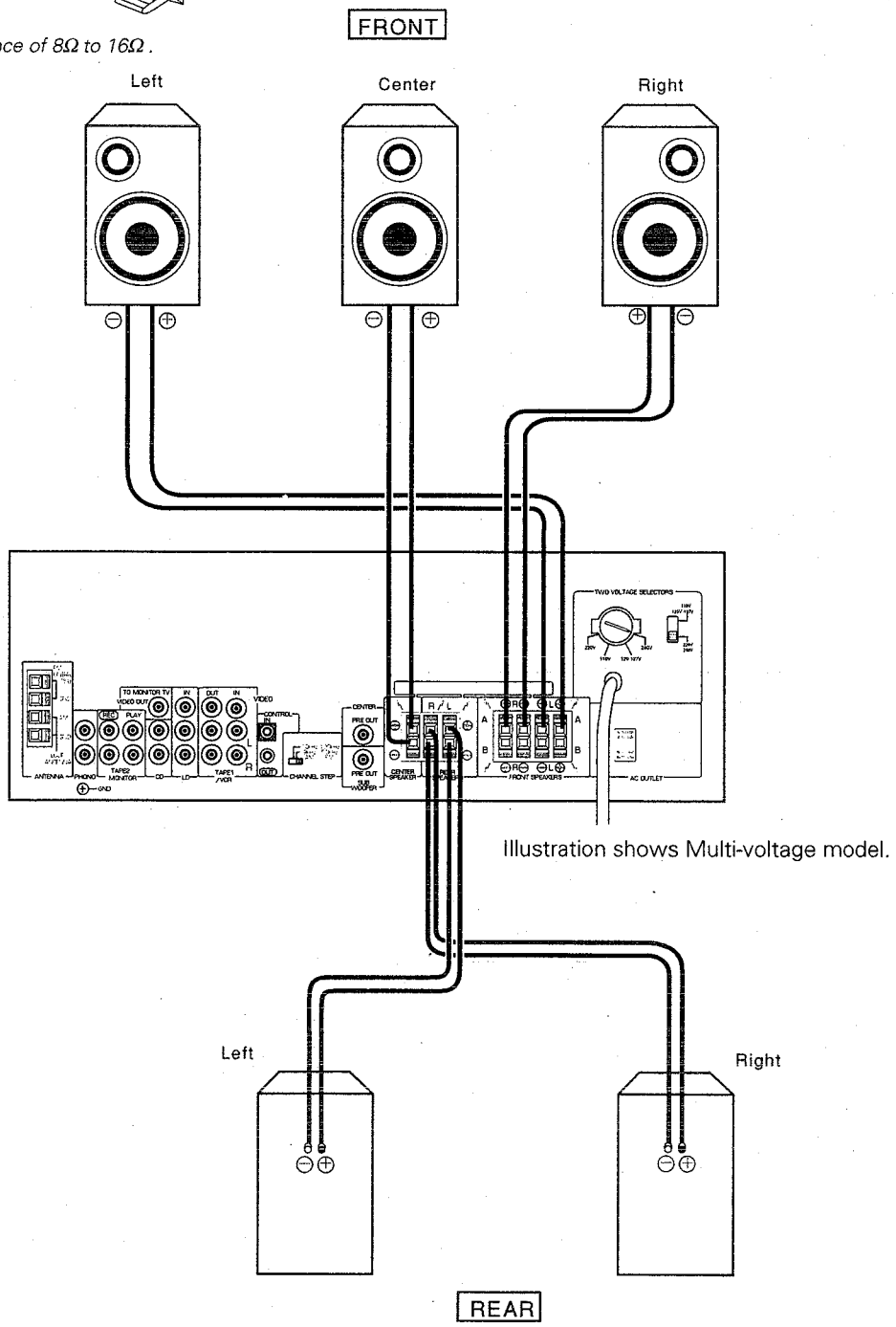
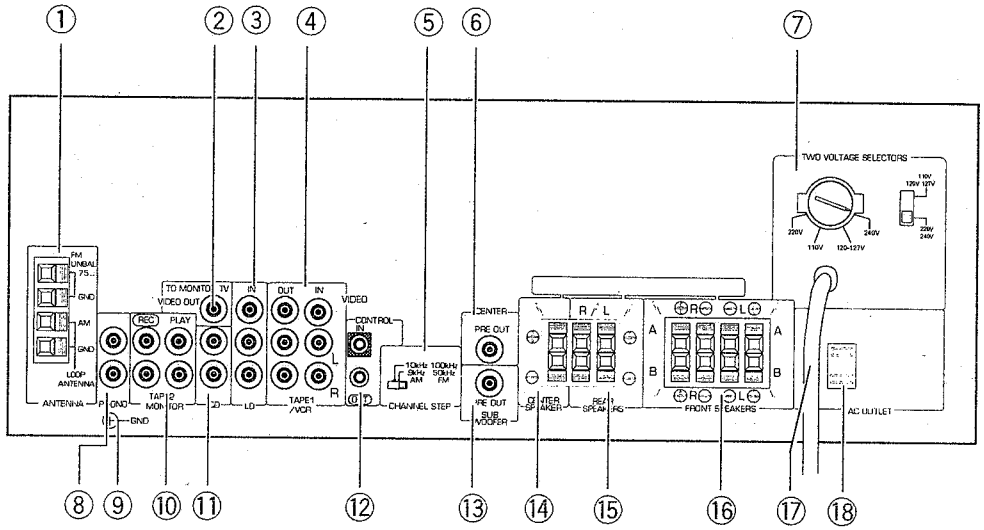


Illustration shows Multi-voltage model.

REAR PANEL FACILITIES

Illustration shows Multi-voltage model.



① FM/AM ANTENNA terminals

Use these antenna terminals for reception of normal FM and AM broadcasts.

② VIDEO OUT (TO MONITOR TV) jack

Connect to a monitor TV or to TV sets with video input terminals to watch program materials from a VCR or LD player connected to this unit.

③ LD input jacks

Connect to an LD player's output jacks (audio, video).

④ TAPE 1/VCR jacks

Connect to the first cassette deck or a VCR. With a VCR, also connect the video jacks.

⑤ CHANNEL STEP switch (Multi-voltage model only)

See page 4.

⑥ CENTER PRE OUT jack

When a separate power amplifier is used to drive the surround center speaker, connect the power amplifier to this jack.

⑦ TWO VOLTAGE SELECTORS switches (Multi-voltage model only)

See page 4.

⑧ PHONO input jacks

Connect to the output cables from a turntable.

⑨ GND terminal

Connect the turntable ground lead to this terminal.

⑩ TAPE 2 MONITOR jacks

Connect to audio components such as a second cassette deck or a graphic equalizer.

⑪ CD input jacks

Connect to the output jacks of a compact disc player.

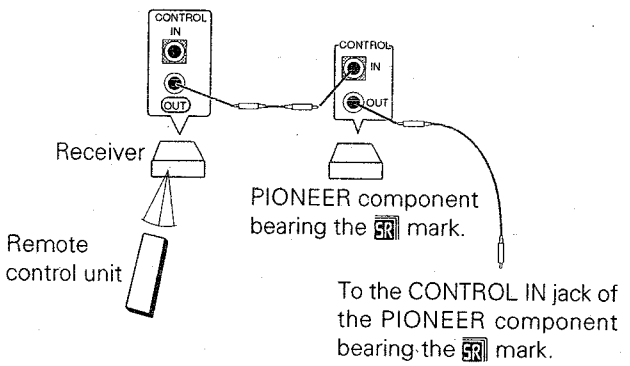
⑫ CONTROL IN/OUT jacks

IN :Connect this jack to other Pioneer components when using those components to control this unit.

OUT :Connect this jack to other Pioneer components when using the remote control of this unit to control the other components.

NOTE :

The receiver's remote sensor does not function when a plug is inserted in the IN jack. To operate, point the remote control unit at the remote sensor on the component to which the receiver's IN jack is connected.



⑬ SUB WOOFER PRE OUT jack

If you want to boost the low frequencies, connect to a subwoofer power amplifier.

⑭ CENTER SPEAKER terminals

Connect the center speaker to these terminals.

NOTE :

Do not allow any of the cord's conductors to protrude from the terminals or touch any other conductors. Malfunctions or breakdowns may occur when conductors come into contact with each other. Use a center speaker with an impedance of 8 Ω to 16 Ω.

⑮ REAR SPEAKERS terminals

Connect the rear speakers to these terminals.

NOTES:

- *Do not allow any of the cord's conductors to protrude from the terminals or touch any other conductors. Malfunctions or breakdowns may occur when conductors come into contact with each other. Use rear speakers with an impedance of 8 Ω to 16 Ω.*
- *Be sure to connect two speakers (L, R). There will be no sound if only one speaker is connected.*

⑯ FRONT SPEAKERS terminals

A :Connect to the first set of speakers.
B :Connect to the second set of speakers.

NOTE:

Do not allow any of the cord's conductors to protrude from the terminals or touch any other conductors. Malfunctions or breakdowns may occur when conductors come into contact with each other. Use front speakers with an impedance of 8 Ω to 16 Ω .

⑰ Power cord

⑱ AC OUTLET

(U.S. and Canadian models)
〔SWITCHED 100 W (0.8 A) MAX〕
Power supplied through this outlet is turned on and off by the receiver's POWER switch. Total electrical power consumption of connected equipment should not exceed 100 W (0.8 A).

(Multi-voltage model)
〔SWITCHED 100 W MAX〕
Power supplied through this outlet is turned on and off by the receiver's POWER switch. Total electrical power consumption of connected equipment should not exceed 100 W .

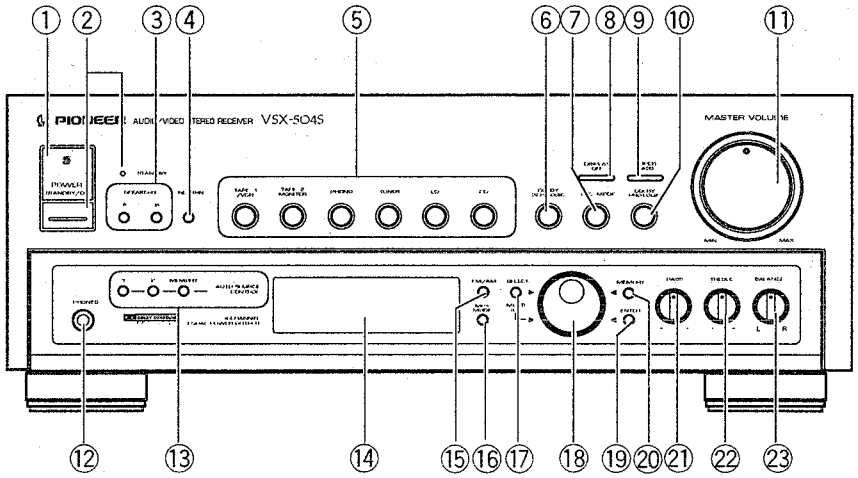
NOTES:

- *This unit should be disconnected by removing the power plug from the wall socket when not in regular use, e.g. when on vacation.*
- *Do not connect appliances with high power consumption such as heaters, irons, or television sets to this AC OUTLET in order to avoid overheating and fire risk. This can cause the receiver to malfunction.*

CAUTION:
DO NOT CONNECT MONITOR OR TV SET.

FRONT PANEL FACILITIES

Illustration shows multi-voltage model.



① Remote sensor

② POWER STANDBY/ON switch

STANDBY indicator (Multi-voltage model only)

This is the switch for electric power.

ON : When set to the ON position, power is supplied and the unit becomes operational.

STANDBY: When set to the STANDBY position, the main power flow is cut and the unit is no longer fully operational. A minute flow of power feeds the unit to maintain operation readiness.

(Multi-voltage model only)

The STANDBY indicator lights when the power is set to STANDBY, and goes out when set to ON.

(Timer ON/OFF possible)

When the unit is switched ON, ON/OFF control can be performed by means of the optional timer.

NOTE:

When the power is initially turned ON, muting will be applied to prevent sound from being output for about 5 seconds.

③ SPEAKERS buttons (A,B)

ON/OFF switches for the A and B speaker systems.

④ RETURN button

Press this button to return the receiver to its initial state. TUNER is selected at this initial state. Adjust the sound level by using the MASTER VOLUME control.

TAPE 2 MONITOR .... OFF
SFC MODE ..... OFF
SUPER BASS ..... OFF
MUTING ..... OFF
FUNCTION ..... TUNER

And SPEAKERS buttons switch as follows.

Before pressing the RETURN button		After pressing
Both A and B are off	→	Only A is on
Only A is on	→	No change
Only B is on	→	Both A and B are on
Both A and B are on	→	No change

NOTE:

Press the RETURN button, and the frequency last selected is received. If reception of the frequency last selected is not possible, the mode automatically switches to AUTO TUNING.

⑤ Input selector buttons

TAPE 1/VCR
: Press when performing playback on a VCR unit or cassette deck.

TAPE 2 MONITOR
: Press when performing playback on a second cassette deck and when monitoring recording.

PHONO : Press when playing records on a turntable.
TUNER : Press when listening to radio broadcasts.
LD : Press when performing playback on an LD player.
CD : Press when playing compact discs on a CD player.

⑥ DOLBY 3CH LOGIC button

Select this setting when stereo-source regeneration and rear speakers are not connected and you wish to use the front L, front R, and center speakers to enjoy audio/visual material bearing the DOLBY SURROUND mark.

⑦ SFC MODE button

Each time you press it, the mode and the display indications change as follows.

STUDIO → SIMULATED SURROUND → ARENA → off → STUDIO

⑧ DISPLAY OFF button

This switches the display OFF.

⑨ SUPER BASS button

Press this button when you want to boost the bass.

⑩ DOLBY PRO-LOGIC button

Switches DOLBY PRO-LOGIC SURROUND on and off.

⑪ MASTER VOLUME control

Use it to simultaneously adjust the sound volume from the front, center, and rear speakers.

⑫ PHONES jack

Connect the plug on your headphones to this jack. Set SPEAKERS A and B switches to OFF if you want to cut the sound from the speakers and listen to it only through the headphones.

⑬ AUTO SOURCE CONTROL buttons

1, 2 buttons:
These buttons are for memorizing and recalling your current settings. Both 1 and 2 can be used to memorize settings. If you connect another component, such as a CD player, to the CONTROL OUT jack on the rear panel, the signals to switch power on and start play are also transmitted.
MEMORY:
Use when memorizing settings to a 1, 2 button.

⑭ Display section

See page 15.

⑮ FM/AM button

Use this to switch between FM and AM frequency band reception.

⑯ MPX MODE button

Use to select the auto stereo mode or monaural mode when listening to FM broadcasts. The monaural mode has been selected when the MONO indicator in the display section is lit.
Auto stereo mode
Normally, leave in this mode for reception. When a stereo FM broadcast is received, it will be automatically reproduced in stereo.
Monaural mode
When receiving distant stations or stations with weak broadcast signals, the input signal may be weak, thus resulting in increased noise during FM stereo broadcasts. In this event, setting the receiver to the monaural mode will reduce the noise. In this case, however, FM stereo broadcasts will be reproduced in monaural sound.
NOTE:
This button has no effect on reception of AM broadcasts.

⑰ SELECT button

Press this button to switch to the station mode. Then you can turn the MULTI-JOG to select a station.
When in the Frequency mode, tuning the MULTI-JOG raises or lowers the frequency.

⑱ MULTI-JOG

Use during tuner operation to select frequencies and station numbers.

⑲ ENTER button

Press this button when you are in the frequency preset mode, and the displayed frequency is memorized in the selected station. (Station indications stop flashing and stay lit.)

⑳ MEMORY button

Press this button to switch to the frequency preset mode.

㉑ BASS control

Use to adjust the low-frequency level. Turn clockwise to boost bass, and counterclockwise to attenuate bass.

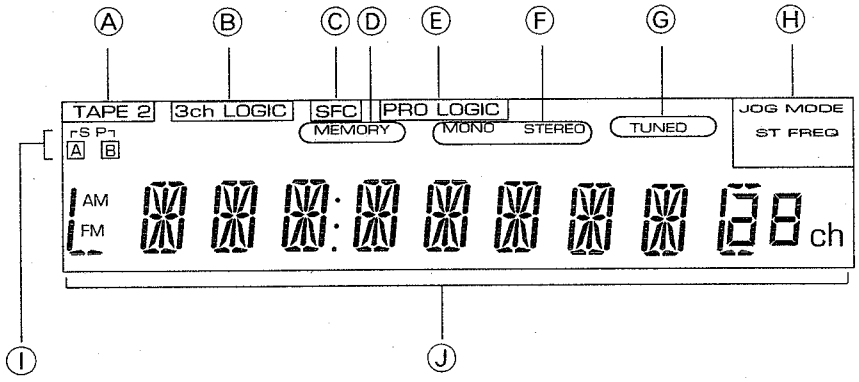
㉒ TREBLE control

Use to adjust the high-frequency level. Turn clockwise to boost treble, and counterclockwise to attenuate treble.

㉓ BALANCE control

Use to adjust the sound volume balance between left and right speakers.
L: Decreases the sound on the right side.
R: Decreases the sound on the left side.
Usually, left and right volume levels should be the same.

DISPLAY SECTION



Ⓐ TAPE 2 indicator

Lights up when the input selector is set to TAPE 2 MONITOR ON.

Ⓑ DOLBY 3CH LOGIC indicator

Ⓒ SFC indicator

This lights when an SFC mode (STUDIO, SIMULATED SURROUND, ARENA) is selected.

Ⓓ MEMORY indicator

Ⓔ DOLBY PRO LOGIC indicator

Ⓕ MONO/STEREO indicator

MONO : Lights up when the FM MONO mode is selected with the MPX MODE button.

STEREO : Lights up when a stereo FM broadcast is being received.

Ⓖ TUNED indicator

Lights up when a station is tuned.

Ⓗ JOG MODE Indicators

When operating the TUNER with the multi-jog, these indicate the station mode (ST) or the frequency mode (FREQ).

Ⓘ SP (SPEAKERS) A,B indicators

Shows which speaker system (or systems) are switched on.

Ⓙ Character display

OPERATING THE TUNER

Press the POWER switch to the ON position.
Select TUNER with the input selector.
Be sure to turn the TAPE 2 MONITOR button OFF when listening to AM or FM broadcasts.
Switch ON the SPEAKERS button corresponding to the speakers you wish to use.

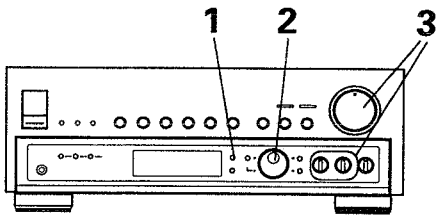
FM auto stereo reception and monaural reception

Each time you press the MPX MODE button, the MONO indicator in the display section lights or goes out.

- If an FM stereo broadcast is received when the MONO indicator is out, the STEREO indicator lights, and sound is in stereo.
- If an FM stereo broadcast is received when the MONO indicator is lit, the sound will be monaural. If there is interference during stereo mode reception, switch to mono. The sound will become monaural but interference will be reduced.

TUNING INTO STATIONS

Turn the MULTI-JOG, and the tuning frequency changes. Turning in a clockwise direction raises the frequency, while turning in a counter-clockwise direction lowers the frequency.



1. **Use the FM/AM button to select either FM or AM.**
   Confirm that the JOG MODE indicator in the display shows "FREQ".
   If "ST" is displayed, press the SELECT button to switch to "FREQ".
2. **Turn the MULTI-JOG until you reach the frequency of a desired station.**
   When a station is received, the TUNED indicator will light up.

NOTE:

The TUNED indicator may not light with broadcasts received over long distances, or when the broadcast signals are extremely weak.

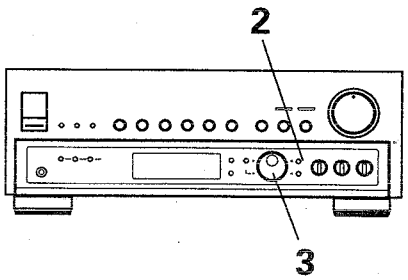
3. **Adjust the volume and tone as desired.**

Auto tuning

Auto tuning is convenient when you do not remember the frequency of a desired station, or when you wish to find stations that you do not normally listen to. Operate by remote control. (Refer to page 23.)

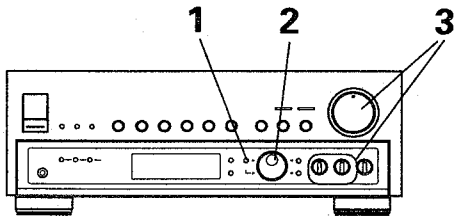
PRESET TUNING

FREQUENCY PRESETTING



1. **Tune into the desired station.**
   See the section "TUNING INTO STATIONS". In addition to station frequencies, the MPX MODE (auto stereo mode or monaural mode) can also be preset (FM only).
2. **Press the MEMORY button.**
   The station number flashes in the display. (Memory mode)
3. **Turn the MULTI-JOG to select the station you want to memorize, and press the ENTER button.**
   - The station number lights in the display, indicating that it has been memorized.
   - If you do not press the ENTER button within about five seconds after selecting a station, the memory mode is canceled.
4. **Repeat steps 1 to 3 to preset additional stations.**
   A total of 30 AM and FM stations may be preset. When you store a new preset, it takes the place of the previously stored station (if any).

LISTENING TO BROADCASTS USING PRESET TUNING



1. **Press the SELECT button.**
   The "ST" of the JOG MODE's indicator lights in the display, and the mode switches to station call.
2. **Turn the MULTI-JOG to select a station.**
3. **Adjust the volume and tone as desired.**

NOTE:

Even if the receiver power cord is unplugged, data remains in memory for several days. If the contents of the memory are erased, preset once more.

Last station memory

When the POWER switch is pressed to turn the power on, the last station received before the power was previously turned off will be tuned in again. When the power is ON, if the FM/AM button is pressed, the last station received before the FM/AM button was previously pressed will be tuned in again.

RECEIVING FM SIMULCAST TV PROGRAMS

By combining a TV set with this receiver, you can receive FM simulcast TV programs (stereo TV sound transmitted from an FM radio station) while viewing the video portion on your TV.

1. **Select the desired TV program with the TV set.**
2. **Tune in the desired FM simulcast TV program on the receiver.**
3. **Adjust the volume and tone controls as desired.**

OPERATING THE AUDIO/VIDEO COMPONENTS

Press the power switch to the ON position, and turn on the power to the other components you wish to use (for example, TV, VCR, cassette deck, etc.).

PLAYBACK

1. **Use the input selector buttons to select the desired program source.**

Program Source	Input selector
To play back on a VCR connected to the TAPE 1/VCR jacks, or to play back on a cassette deck	TAPE 1/VCR
To listen to a tape on the cassette deck connected to TAPE 2 MONITOR jacks	TAPE 2 MONITOR
To listen to records	PHONO
To watch a LaserDisc	LD
To listen to compact discs	CD

*If you select a music source other than TAPE 2, switch OFF the TAPE 2 MONITOR.

2. **Operate the appropriate audio/video component to play back the program source.**
   For a video source, switch the TV connected to this unit to the video input mode.
3. **Adjust the volume and tone controls as desired.**
   Refer to pages 5, 6 and 19 for details concerning surround operation.

RECORDING WITH A CASSETTE DECK

RECORDING WITH VCR/TAPE 1

If the TAPE 2 MONITOR button is ON, press to turn OFF.

1. **Select the source you want to record from with the input selector buttons.**
   When recording AM or FM broadcasts, select a preset station using the MULTI-JOG. If the desired station has not been preset, tune in the station.
2. **Start recording on the cassette deck.**
3. **Play the desired program source (record, compact disc, etc.).**
   The volume, balance, and tone controls have no effect on the recording.

RECORDING WITH TAPE 2

1. **Select the source you want to record from with the input selector buttons.**
2. **Start recording on the TAPE 2 cassette deck.**
3. **Play the desired program source (record, compact disc, etc.).**
   The volume, balance, and tone controls have no effect on the recording.

When copying a tape, play back on the TAPE 1/VCR cassette deck, and record on the TAPE 2 cassette deck.

Tape monitoring

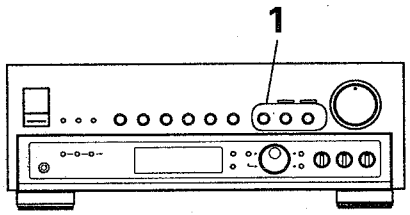
When recording is performed on a cassette deck equipped with a monitoring function, the recorded sound can be monitored through the speaker system by pressing the TAPE 2 MONITOR button to ON.

VIDEO RECORDING

1. **Select the source you want to record from with the input selector buttons.**
   When recording from a LaserDisc to VCR → LD
2. **Start recording on the VCR.**
   For VCR, select a line input (external input).
3. **Start playback on the component selected with the input selector.**
   The volume, balance, and tone controls have no effect on the recording.

SURROUND EFFECT AND DOLBY 3CH LOGIC

SURROUND LEVEL ADJUSTMENT



1. **Select the desired mode with the DOLBY PRO-LOGIC button, SFC MODE button, and DOLBY 3CH LOGIC button.**
   The SFC MODE changes in sequence each time the SFC MODE button is pressed. (The SFC indicator lights.)

   STUDIO → SIMULATED SURROUND → ARENA → off

2. **When you select DOLBY PRO-LOGIC, DOLBY 3CH LOGIC , press the CENTER MODE button of the remote control unit.**
   The CENTER MODE changes in sequence each time this button is pressed.

   DOLBY PRO-LOGIC SURROUND:
   NORMAL → WIDE → PHANTOM

   DOLBY 3CH LOGIC:
   NORMAL → WIDE

3. **Use SPEAKERS button to turn on front speakers.**
4. **Adjust MASTER VOLUME to a suitable listening level.**
5. **Adjust the BALANCE control to center position.**
6. **Press the remote control's TEST TONE button to switch the test tone ON.**
   The test tone is output from each of the speakers in the following order.

   Front Left → Center *1 → Front Right → Surround (Rear)

7. **Adjust so that the volume level is the same from each of the speakers.**
   - Use the CENTER LEVEL +, − buttons of the remote contol unit to adjust the center speaker volume level. *2
   - Use the REAR LEVEL +, − buttons of the remote contol unit to adjust the rear speaker volume level.*3
8. **Press the remote control's TEST TONE button to switch the test tone OFF.**

NOTES:

***1** When the CENTER MODE button is PHANTOM position, no test tone is output from the center speaker.*

***2** Only when using DOLBY PRO-LOGIC SURROUND and DOLBY 3CH LOGIC, can you adjust the CENTER LEVEL.*

***3** When using DOLBY 3CH LOGIC , the REAR speakers are not used.*

SETTING THE DELAY TIME

When using DOLBY PRO-LOGIC SURROUND, ARENA or SIMULATED SURROUND, you can set the delay time between 15 ms and 30 ms (5 ms step). The standard setting is 20 ms, but you can select any setting of your choice.
When you press the DELAY TIME button on the remote control unit, the current delay time is displayed. Pressing it again changes the delay time.

You can memorize receiver settings, and recall at the touch of a button. Two memory buttons are available.

If you connect a component bearing the Pioneer SR mark, such as a CD player, to the CONTROL OUT jack on the rear panel, signals can also be transmitted to automatically switch on power and to start play of that component.

NOTE:

With some components, even if they bear the SR mark, power cannot be switched on and off by remote control.

[Operating Memory]

1. **Select the settings on the receiver you want to memorize.**
2. **Press the MEMORY button.**
   After the "AUTO SOURCE CONTROL" indication has scrolled in the display, "MEMORY" appears and flashes.
3. 5秒以内に **Press the AUTO SOURCE CONTROL button (1 or 2) that you want to use for memorizing.**

Example:

Using the AUTO SOURCE CONTROL 1 button to memorize settings to start play on a CD player connected to the receiver's CONTROL OUT jack.

1. **Set the receiver input selector to CD.**
2. **Adjust tone, surround, and other parameters to the settings that you want to memorize.**
3. **Press the MEMORY button.**
4. **Press the AUTO SOURCE CONTROL 1 button.**
   "MEMORY 1" flashes in the display for about five seconds.

   NOTE:

   - *If you press another button while "MEMORY 1" is flashing, the memory mode is canceled, so wait until it has stopped flashing before you press another button.*

[Recalling]

Press the AUTO SOURCE CONTROL button (1 or 2) for the settings that you want to recall.
Remote control's AUTO SOURCE CONTROL buttons (ASC 1 or 2) can also be used to recall settings.
"AUTO SOURCE CONTROL 1 (or 2)" is scroll displayed. After the last indication, such as "PLAY CD" has been scroll displayed, the display switches to function indications.

In the case of the example, the following operations are performed:
① Press the AUTO SOURCE CONTROL 1 button.
② Power to the receiver switches ON, the input selector selects CD, settings for such parameters as surround, are called up, and power to the CD player is switched ON.
③ Play starts on the CD player.

NOTE:

- *Since the power ON and play signals for components bearing the SR mark called by Auto source control are output through this unit's CONTROL OUT jack, be sure to connect the control cord (refer to page 11).*
- *With some components, even if they bear the SR mark, power cannot be switched on and off by remote control. If this is the case, by connecting the other unit's power cord to this unit's SWITCHED AC OUTLET, and leaving the other unit's power switch ON, power switching will depend on whether this unit is on or off.*
- *AUTO SOURCE CONTROL memory stores the receiver settings at that point in time; it does not memorize STATION CALL numbers (1-30). (The frequency is memorized.)*
- *During the operation of AUTO SOURCE CONTROL, other components are also being controlled, so do not perform other operations until it is finished.*

With auto source control, power ON/OFF signals and play signals are output from the CONTROL OUT jack at the times shown in the following chart.

Function at the time of memorizing	POWER signal	PLAY signal
TAPE 1/ VCR	Yes (VCR, TV, TAPE)	Yes (VCR PLAY, TAPE PLAY, TV FUNC "LD")
TAPE 2 MONITOR	Yes (TAPE, Memorized functions)	Yes (TAPE, Memorized functions)
PHONO	—	Yes
LD	Yes (LD, TV)	Yes (LD PLAY, TV FUNC "LD")
CD	Yes	Yes

Example of AUTO SOURCE CONTROL 1, 2 memory

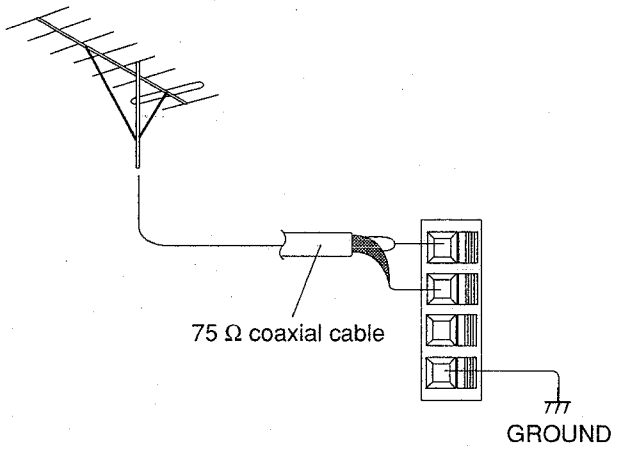
AUTO SOURCE CONTROL	Input selector	Surround mode
1	CD	DOLBY PRO-LOGIC SURROUND
2	TUNER	ARENA

HINTS FOR BETTER RECEPTION

EXTERNAL FM ANTENNA

The main advantage of FM over AM is the quality of the broadcast signal. In order to benefit fully from the high signal quality of FM broadcasts, it is recommended that a special-purpose FM antenna be installed. In weak signal areas, a multi-element (3-element, 5-element, 7-element) antenna should be used.

Connecting the 75Ω coaxial cable



GROUNDING

Grounding is recommended if reception of FM programs is impaired by noise. To ground, connect a thick polyvinyl-insulated wire to the GND terminal and attach the other end to a metal water pipe or grounding bar or wind it around a copper plate and bury it.

NOTE:

Never connect a wire to a gas pipe for grounding since sparks may ignite the gas.

EXTERNAL AM ANTENNA

If it is not possible to obtain adequate AM reception even by changing the orientation of the AM loop antenna, a separate indoor antenna or an outdoor antenna should be installed.

INDOOR AM ANTENNA

Use a vinyl-insulated wire 5 to 6 meters long (15 to 18 feet) and connect one end to the AM antenna terminal and affix the other end to the wall or ceiling, as high as possible.

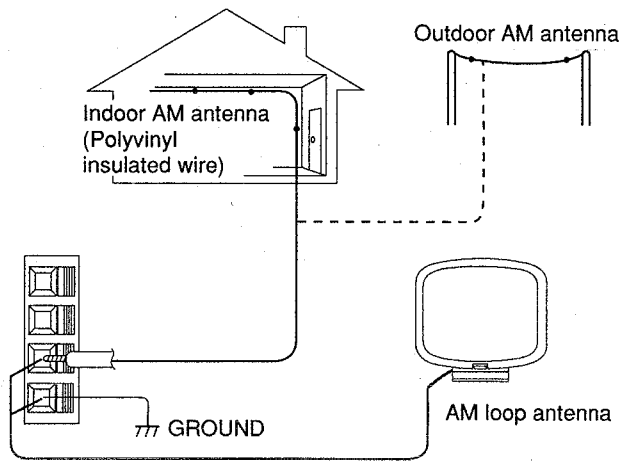
NOTE:

Do not detach the AM loop antenna when using an indoor or an outdoor AM antenna.

OUTDOOR AM ANTENNA

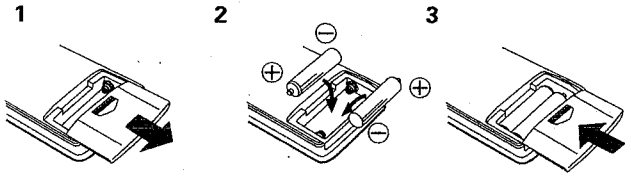
If reception quality is not improved sufficiently even when an indoor antenna is used, a vinyl-insulated wire should be installed outside and fixed in place.

AM antenna connection



REMOTE CONTROL OPERATION

PUTTING BATTERIES INTO THE REMOTE CONTROL UNIT



1. **Open the battery compartment cover on the rear of the remote control unit. The cover should open easily if you slide it in the direction of the arrow while pressing on it with your thumb.**
2. **Take out the two supplied batteries size ["AAA" (IEC LR03/AM-4)], and insert them into the battery compartment in accordance with the indications in the compartment.**
3. **Close the cover of the battery compartment.**

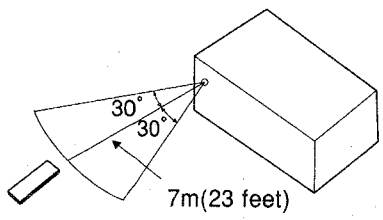
Incorrect use of batteries may lead to leakage or rupture. Always be sure to follow these guidelines:

A.
Always insert batteries into the battery compartment correctly matching the positive (+) and negative (-) polarities, as indicated inside the compartment.

B.
Never mix new and used batteries.

C.
Batteries of the same size may have different voltages, depending on their type. Do not mix different types of batteries.

REMOTE CONTROL RANGE



When operating the remote control unit, point the front of the unit at the front panel of the receiver. The remote control unit may be used within a range of about 7 meters (23 feet) from the remote sensor, within angles of up to about 30 degrees.
Performance of the remote control unit is adversely affected in the presence of a strong fluorescent light. Keep such lights away, especially from the sensor window.

Battery Replacement
As battery power runs down, the range over which the remote control unit can operate decreases. When the range becomes too short, change the batteries.

Changing batteries

If the TRANSMIT/LEARN indicator doesn't light even if a button is pressed, the batteries are dead and need to be changed. Memory is erased a short time after the batteries are removed, so be sure you have new batteries ready for quick replacement.
Also, be sure to use specified batteries size "AAA" (LR03/AM-4).
If you remove the battery case cover, power to the remote control is cut, making remote operation impossible. Be sure the battery case cover is on.

NOTE:

Even when batteries are removed, learned commands remain in memory for about 15 minutes.

NOTE:

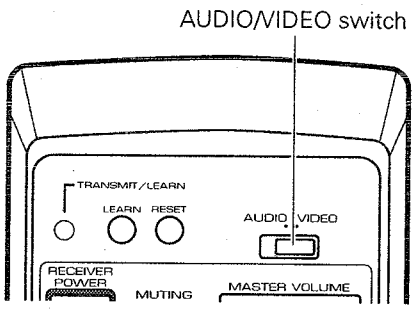
- *After loading new batteries, be sure to press the RESET button on the front of the remote control with a pointed object such as ballpoint pen.*
- *If you remove the batteries, replace the battery case cover, and press a button, memory is erased in a few seconds.*

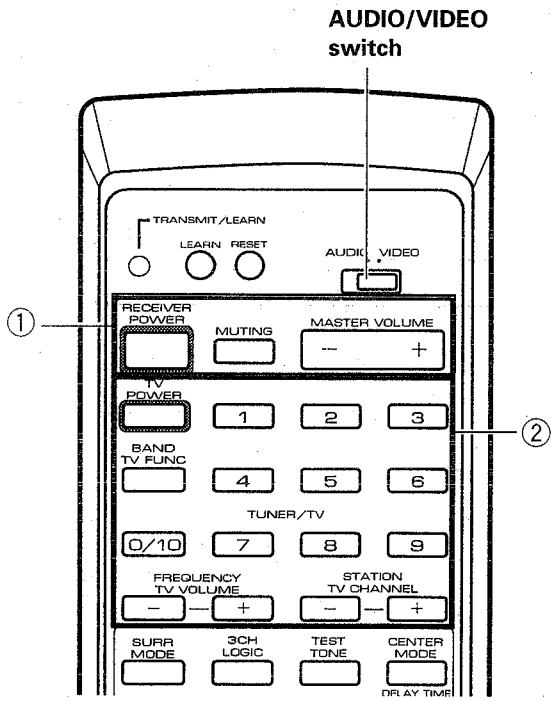
- The accessory remote control can be used to control some functions of other Pioneer cassette decks, CD players, tuners, VCRs, LD players, and TVs (only those bearing the Pioneer SR mark).
- When the accessory remote control unit is used to operate other PIONEER components with the SR mark, it cannot be used to operate functions which do not correspond to the functions listed on the remote control unit.

AUDIO/VIDEO switch

AUDIO:
Select this positon for remote control operation of audio equipment such as a CD player or a cassette deck.

VIDEO:
Select this position for remote control operation of video equipment such as an LD player, VCR or TV.





① RECEIVER control buttons

RECEIVER POWER button:
Switches the receiver power between ON and STANDBY.
MUTING button:
Used to temporarily mute the sound. When set to the on position, MUTING is displayed.
The volume is restored when pressed again.
MASTER VOLUME (+ , −) buttons:
Adjusts the overall volume.

② TUNER/TV operation

<TUNER operation buttons>

Set the AUDIO/VIDEO switch to AUDIO.

1-9, 0/10 buttons:
Used for recalling memorized stations.
Pressing a button more than once increases the number by ten. For example, press the 5 button once for 5ch, twice for 15 ch, and three times for 25 ch.
BAND button:
Switches the FM and AM bands in turn.
FREQUENCY (− / +) buttons:
Shifts the frequency up (+) and down (−).
STATION (− / +) buttons:
Used for switching memorized stations.

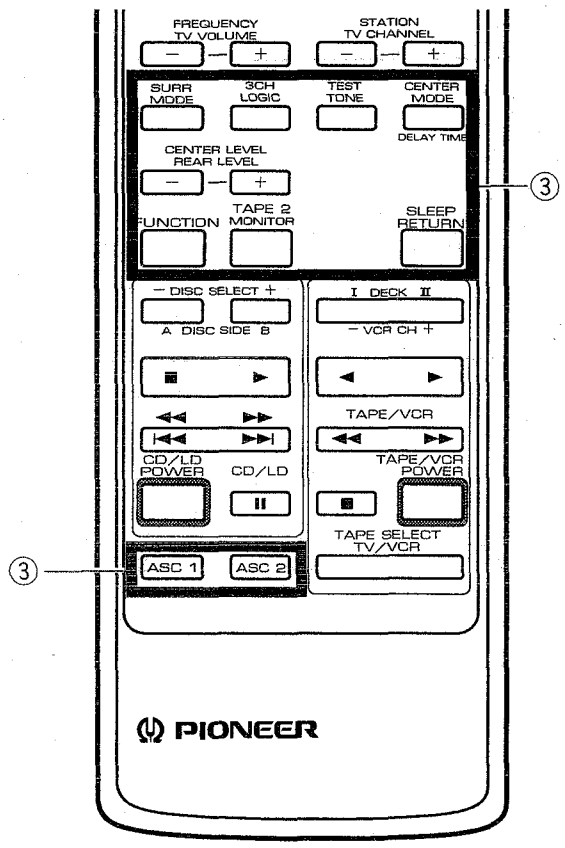
Auto tuning:
Press FREQUENCY + (up) or − (down) button until the frequency starts to change, then release it. The tuner will automatically search for a broadcasting station and stops when one is found, and the TUNED indicator lights up. To search for another station, press again.
Manual tuning:
Press FREQUENCY + (up) or − (down) button and release quickly. The tuning frequency will change by one step each time the button is pressed. Press as many times as necessary to tune in the desired station. The TUNED indicator lights up when the station is tuned in best.
- If you keep the FREQUENCY (+ / −) button depressed after the frequency has began to change, the reception frequency changes continuously, and stops when the button is released.

NOTE:
When AUTO TUNING is in use, reception may not be possible over long distances or when signals are weak. At these times MANUAL TUNING is recommended.

<TV operation buttons>

Set the AUDIO/VIDEO switch to VIDEO.

TV POWER button:
Switches the power of the TV ON/OFF.
TV FUNC (FUNCTION) button:
Used to change the TV FUNCTION.
The TV FUNC button cannot be used with some Pioneer TVs.
1-9, 0/10 buttons:
Used to call up channels.
TV VOLUME (− / +) buttons:
Raises and lowers the volume.
TV CHANNEL (− / +) buttons:
Switches TV channels in order.



③ RECEIVER operation buttons

SURR. (SURROUND) MODE button:
The surround mode changes in sequence each time you press this button.

DOLBY PRO-LOGIC SURROUND → STUDIO → ARENA → SIMULATED SURROUND → OFF

3CH LOGIC button:
Switches DOLBY 3CH LOGIC on and off.

TEST TONE button:
Used when DOLBY PRO-LOGIC SURROUND, DOLBY 3CH LOGIC or SFC MODE is in the on position.
Used to adjust the test tone volume level from each speaker. When the test tone is switched ON, the test tone is output through each speaker in turn for about two seconds. (The channel outputting the test tone is indicated in the display.) Adjust volume level so that it is the same from each speaker.

CENTER MODE/DELAY TIME button:
When the AUDIO/VIDEO switch is set to AUDIO
Use to switch the center mode when DOLBY PRO-LOGIC or DOLBY 3CH LOGIC are ON.

When the AUDIO/VIDEO switch is set to VIDEO
This functions as a DELAY TIME button. During DOLBY PRO-LOGIC SURROUND, ARENA and SIMULATED SURROUND operation, delay time settings can be changed from 15 ms to 30 ms in 5 ms steps.
The DELAY TIME button does not operate in STUDIO mode.

CENTER LEVEL/REAR LEVEL buttons:
When the AUDIO/VIDEO switch is set to AUDIO
This functions as a CENTER LEVEL button.
Adjust the sound level of the center speaker.

When the AUDIO/VIDEO switch is set to VIDEO
This functions as a REAR LEVEL button.
Adjust the sound level of the rear speakers.

FUNCTION button:
Press to select the receiver input.

TAPE 1/VCR → PHONO → TUNER → CD → LASER DISC →

TAPE 2 MONITOR button:
Switches TAPE 2 MONITOR on/off.

SLEEP/RETURN button:
When the AUDIO/VIDEO switch is set to AUDIO
Activates the SLEEP timer. The length changes in the following manner each time the button is pressed:

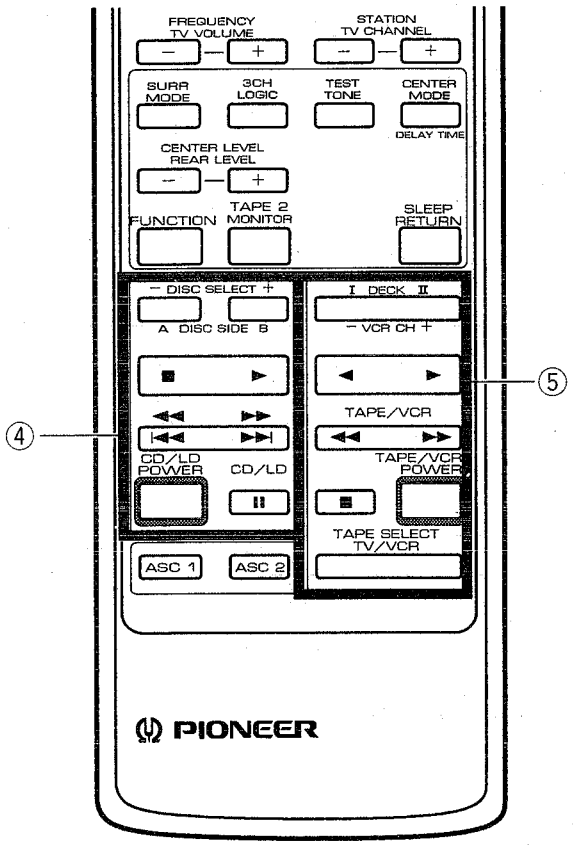
90 min → 60 min → 30 min → off →

When SLEEP is ON, the display section is about half as bright as when SLEEP is OFF.

When the AUDIO/VIDEO switch is set to VIDEO
This functions as a RETURN button.
Press the RETURN button to return the receiver into the initial state. TUNER is selected at this initial state. Adjust the sound level by using the MASTER VOLUME control.

- TAPE 2 MONITOR ..... OFF
- MUTING ..... OFF
- SURROUND MODE ... OFF
- FUNCTION ..... TUNER
- SUPER BASS ..... OFF

ASC (AUTO SOURCE CONTROL) 1, 2 button:
Recalls Auto source control settings from memory.



④ CD/LD operation buttons

<CD player operation buttons>
Set the AUDIO/VIDEO switch to AUDIO.

DISC SELECT − , + buttons:
Use to select a disc with a file-type CD player.
Only the + button may be used to select the DISC No. (1 to 6) for a multi CD player, or used to select DISC Ⅰ / Ⅱ for a twin-tray CD player.
NOTE:
Some Multi-play CD players cannot be controlled using this button.

■ **(STOP) button:**
Stops playback.

► **(PLAY) button:**
Selects playback.

⏮ **(TRACK SEARCH) button:**
Returns to the beginning of the track currently playing.

⏭ **(TRACK SEARCH) button:**
Advances to the next track.

CD/LD POWER button:
Switches CD player power ON/OFF.

⏸ **(PAUSE) button:**
Pause

<LD player operation buttons>
Set the AUDIO/VIDEO switch to VIDEO.

DISC SIDE A/B buttons:
Changes the disc side in an LD player capable of playing both sides of a disc.

■ **(STOP) button:**
Stops playback.
With some LD players, pressing the button twice may open the disc tray.

► **(PLAY) button:**
Selects playback.

◄◄ **(SCAN) button:**
Selects fast backward.

►► **(SCAN) button:**
Selects fast forward.

CD/LD POWER button:
Switches LD player power ON/OFF.

⏸ **(PAUSE) button:**
Pause

⑤ TAPE/VCR operation buttons

<TAPE (DECK Ⅰ , Ⅱ) operation buttons>
Set the AUDIO/VIDEO switch to AUDIO.

DECK Ⅰ , Ⅱ button:
Switches DECK Ⅰ and DECK Ⅱ .
When using a single cassette deck, select DECK Ⅱ .

◄ **(PLAY) button:**
Selects reverse playback.

► **(PLAY) button:**
Selects forward playback.

◄◄, ►► **(FF) button:**
Rapidly advances the tape in the direction of the allows.

■ **(STOP) button:**
Stops tape transport.

TAPE/VCR POWER button:
Switches cassette deck power ON/OFF.

TAPE SELECT button:
Selects the cassette No. (1 to 6) for multi-cassette changer.

<VCR operation buttons>
Set the AUDIO/VIDEO switch to VIDEO.

VCR CH (CHANNEL) − , + buttons:
Shifts VCR's TV tuner channels in order.

► **(PLAY) button:**
Selects playback.

◄◄ **(REW) button:**
Rewinds the tape and allows picture search.

►► **(FF) button:**
Rapidly advances the tape and allows picture search.

■ **(STOP) button:**
Stops tape transport.

TAPE/VCR POWER buttons:
Switches VCR power ON/OFF.

TV/VCR buttons:
This button can be used only for VCRs with a TV/VCR selector. Toggles the antenna output between VCR and TV.

USING THE LEARNING FUNCTION

• What is the Learning Function?

The Learning Function "learns" and memorizes the commands of other manufacturer's AV remote controls.
Besides Pioneer remote controllable audio and video components, this function lets you operate other manufacturers' remote controllable AV components.

• Convenience of the Learning Function

It lets you control all your AV components with a single remote control unit.

• What remote controls can it learn from?

Only infrared system remote controls. Most recent wireless remote controls use the infrared system, so their commands can be learned.

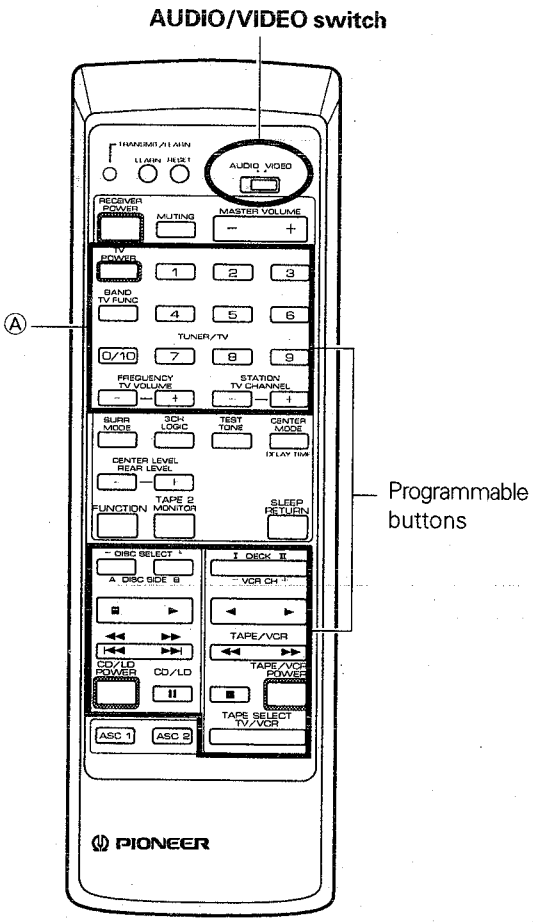
There are some infrared remote controls that use a special system which prevents learning.

NOTE:

- *To enable relearning of commands that have been accidentally erased, be sure to keep the remote controls they were learned from.*
- *When learning commands, make sure that components cannot be operated because power may be switched on, a valuable tape may be erased, or volume may suddenly be raised. To disable components, you can switch the main power supply off (or unplug the AC power cord from the wall socket), or cover their remote reception windows. Even if a remote control isn't pointing towards a component, the remote control signal (infrared) may be reflected of the walls or ceiling, so be careful.*

• Learning buttons and learning capacity

The buttons indicated in the diagram can learn commands. However, learning capacity depends on the remote control signal. Up to about 20 Pioneer remote control signals can be learned. Memory may not be available for learning a new command even if there are buttons that have not yet been used for learning.



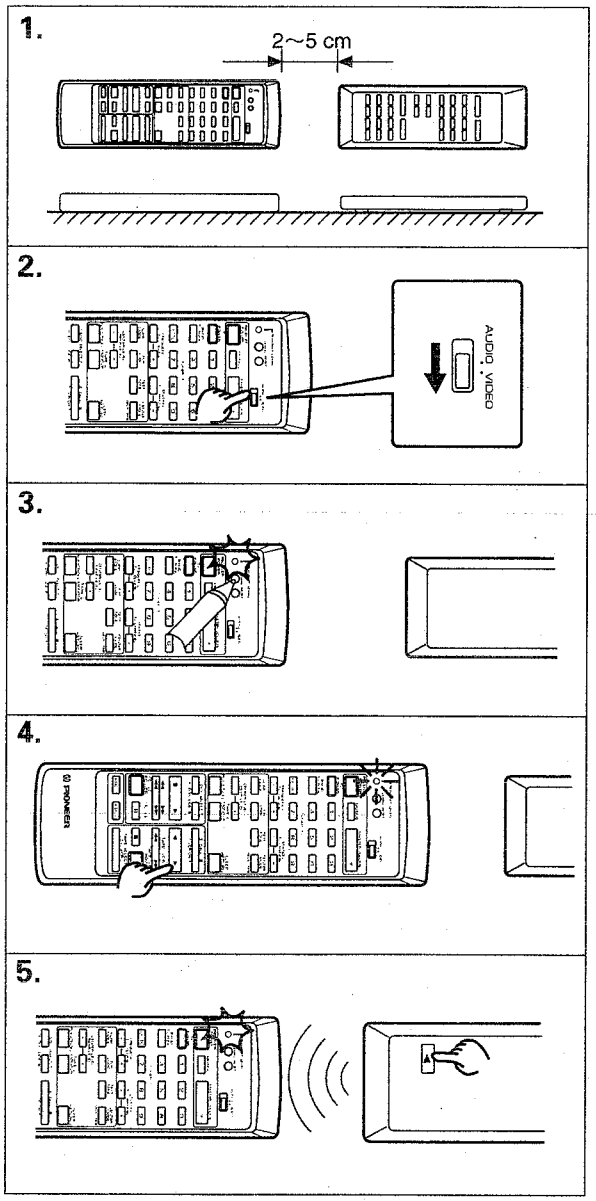
NOTE:

Changing the AUDIO/VIDEO switch setting lets you store two commands in a single button. (However, when the switch is set to AUDIO, do not use the Ⓐ TUNER/TV operation buttons for learning, because they are for VSX-504S tuner operations.)

• Learning commands

1. **Select AUDIO or VIDEO with the AUDIO/VIDEO switch.**
   AUDIO :when learning TUNER, CD, TAPE operations.
   VIDEO :when learning TV, LD, VCR operations.
2. **Press the LEARN button to switch to the Learn mode.**
3. **Press the operation button for the command you want to learn.**
4. **Receive the signal, and learn the command.**
5. **After a command has been learned, press the Learn button to cancel the Learn mode.**

Example:
Using this remote control's VCR ► button to learn the "Play" command from your VCR remote control.
When learning commands, be sure there are new batteries in both remote controls.



1. **Place both remote controls with their transmission windows facing each other.**
   Be sure to place them on a flat, stable surface, such as a table. Holding them in your hands may result in incorrect learning.
2. **Set the AUDIO/VIDEO switch to VIDEO.**
3. **Press the LEARN button.**
   The TRANSMIT/LEARN indicator flashes. (If you do not perform the next operation within about 1 minute, the Learn mode is canceled.)
4. **Press this remote cotrol's VCR ► button.**
   The TRANSMIT/LEARN indicator lights. (If you do not perform the next operation within about 1 minute, the Learn mode is canceled.)
5. **Continue pressing the Play button on the other remote control.**
   When learning has finished, the TRANSMIT/LEARN indicatior flashes again (as in step 3).

To learn more commands with other buttons, repeat the learning procedure from step 3.

- To stop the learning operation, press the LEARN button, and the TRANSMIT/LEARN indicator goes out.
- If signal reception is too weak to enable leaning, the TRANSMIT/LEARN indicator flashes twice, and the LEARN mode is canceled.
- If learning is not possible due to a full memory, the TRANSMIT/LEARN indicator flashes 4 times, and the LEARN mode is canceled.

If memory is full even when you have used only a few buttons for learning, try the following operations.

- Memorize a command once more in the button you used when the memory became full.
  The following are some possible reasons why the memory became full:
  The remote controls may have been too far apart. The batteries may be dead. Strong fluorescent light may be interfering with signal transmission.
- To clear all learned commands from memory, simultaneously press the TV POWER, CD/LD POWER, and TAPE/VCR POWER buttons on the remote control.

TROUBLESHOOTING

Incorrect operations are often mistaken for trouble and malfunctions. If you think that there is something wrong with this component, check the points below. Sometimes the trouble may lie in another component. Investigate the other components and electrical appliances being used. If the trouble cannot be rectified even after exercising the checks listed below, ask your nearest PIONEER authorized service center or your dealer to carry out repair work.

Symptom	Cause	Remedy
Power does not come on even when the POWER switch is pressed.	• Power cord is disconnected. • Instances are rare, but the problem may be due to the operation of the protector circuit.	• Connect cord securely. • Unplug the power cord of the unit from the AC wall outlet, then plug it in again.
Control is not possible regardless of what operation button is pressed.	• Static electricity affects the unit when the air is dry, such as in winter.	• Unplug the power cord of the unit from the AC wall outlet, then plug it in again. • If static electricity is pronounced, it is recommended that you operate the unit using the remote control unit.
No sound is produced, even when the input selector button is selected.	• Connections are incorrect.	• Consult pages 7-10 and perform connections correctly.
	• The MUTE button is pressed.	• Press the MUTE button to cancel the MUTING effect.
	• VOLUME is turned down.	• Raise volume.
	• Speaker connecting wires are disconnected from speaker terminals.	• Connect wires to terminals securely.
	• One or both of the input cords are disconnected.	• Connect input cords securely.
	• TAPE 2 MONITOR button is in the ON position.	• Press the button again to the OFF position.
	• The SPEAKERS button is OFF.	• Switch the SPEAKERS button ON.
No picture is produced, even when the input selector button is selected.	• Connections are incorrect.	• Consult pages 7-10 and perform connections correctly.
	• The VCR and the selected input selector button are not correct.	• Press the correct button.
High noise level.	• Station has not been tuned in to correct frequency.	• Tune the station in correctly.
	• Antenna has not been connected or has become disconnected.	• Connect the antenna securely.
	FM reception • Accessory FM antenna remains bundled up or it is not pointing in right direction.	• Straighten out the antenna and point in the direction which provides optimum reception.
	• Weak broadcasting station signals.	• Replace accessory FM antenna with outdoor FM antenna.
	AM reception • AM loop antenna is not pointing in right direction.	• Change the direction of the AM loop antenna and find a position where reception is improved.
	• Weak broadcasting station signals.	• Erect an outdoor AM antenna or connect a ground wire.
	• Noise is being picked up by this unit from other equipment (especially electrical appliances using motors or fluorescent lights).	• Turn off the appliances generating noise or remove them from the vicinity of the stereo equipment.

Symptom	Cause	Remedy
No auto stop.	• Input signals are not strong enough.	• Separate the antenna from the unit by some distance.
TV source cannot be seen when the VCR's TV tuner is used.	• TV antenna is not connected to the VCR, or connections are faulty.	• Connect the TV antenna to the VCR.
	• You are attempting to watch a TV source using a VCR with a copy system connected. In general, when a copy system is connected, the VCR's TV tuner function ceases to operate. For details, consult the operating instructions of your VCR.	• Consult the VCR's operating instructions, and connect the antenna correctly. • Disconnect the copy system connection (TV tuner function will operate).
No rear sound is produced.	• The SFC MODE switch is set incorrectly. • The REAR LEVEL is turned down. • Speaker connecting wires are disconnected from the REAR SPEAKERS terminals.	• Set correctly. • Refer to page 19 and adjust the rear level. • Connect wires to the terminals securely.
Remote control does not work.	• Batteries are dead or missing in remote control unit. • Poor angle or too great a distance from the remote sensor window. • There is an obstacle between you and the remote sensor window. • A fluorescent light is shining on the remote sensor window.	• Insert new batteries. • Use within 7 meters and within a 30 degree angle of the remote sensor window. • Change your position or move the obstacle. • Move the receiver so fluorescent light does not shine directly on the receiver's front panel remote sensor window.

Abnormal functioning of this unit may be caused by lightning, static electricity, or other external interference. To restore normal operation, turn the power off and then on again, or unplug the AC power cord and then plug it in again.

SPECIFICATIONS

Amplifier Section

Continuous average power output of 150 watts* per channel, min., at 8 ohms, from 20 Hz to 20,000 Hz with no more than 0.09 % total harmonic distortion (front).**

[Multi-voltage model only]
Continuous Power Output (DIN)
Front (1kHz, T.H.D. 1%, 8 W) ..... 165 W+165 W

Continuous Power Output
Front ..... 110 W + 110 W (1kHz, 0.8%, 8 Ω)
Center ..... 110 W (1kHz, 0.8%, 8 Ω)
Rear ..... 110W (1kHz, 0.8%, 8 Ω)
Dynamic Power (2 Ω /4 Ω/8 Ω) ..... 350 W/280 W/180 W
Input (Sensitivity/Impedance)
PHONO MM ..... 2.8 mV/47 kΩ
CD, TAPE 1/VCR, TAPE 2, LD ..... 200 mV/47 kΩ
Phono Overload Level (T.H.D. 0.1%, 1 kHz)
PHONO MM ..... 100 mV
Frequency Response
PHONO MM ..... 20 Hz to 20,000 Hz ± 0.3 dB
CD, TAPE 1/VCR,
TAPE 2, LD ..... 5 Hz to 100,000 Hz $^{+0}_{-3}$dB
Output (Level/Impedance)
TAPE 1/VCR REC, TAPE 2 REC ..... 200 mV/2.2 kΩ
Tone Control
BASS ..... ± 8 dB (150 Hz)
TREBLE ..... ± 8 dB (10 kHz)
SUPER BASS ..... +8 dB (80 Hz)
Signal-to-Noise Ratio (IHF, short circuited, A network)
PHONO MM ..... 76 dB
CD, TAPE 1/VCR, TAPE 2, LD ..... 97 dB
Signal-to-Noise Ratio [EIA, at 1 W (1 kHz)]
PHONO MM ..... 77 dB
CD, TAPE 1/VCR, TAPE 2, LD ..... 80 dB

* *Measured pursuant to the Federal Trade Commission's Trade Regulation rule on Power Output Claims for Amplifiers.*
** *Measured by Audio Spectrum Analyzer.*

VIDEO Section

Input (Sensitivity/Impedance)
VCR, LD ..... 1 Vp-p/75 Ω
Output (Level/Impedance)
VCR REC ..... 1 Vp-p/75 Ω
Frequency Response
VCR, LD→ MONITOR ..... 5 Hz to 7 MHz $^{+0}_{-3}$dB
Signal-to-Noise Ratio ..... 55 dB
Cross Talk ..... 55 dB

FM Tuner Section

Frequency Range ..... 87.5 MHz to 108 MHz
Usable Sensitivity ..... Mono:11.2 dBf, IHF (1.0 μV/75 Ω)
50 dB Quieting Sensitivity ..... Mono: 16.8 dBf
Stereo: 38.6 dBf
Signal-to-Noise Ratio ..... Mono: 73 dB (at 85 dBf)
Stereo: 70 dB (at 85 dBf)
Distortion ..... Stereo: 0.5 % (1 kHz)
Alternate Channel Selectivity ..... 60 dB (400 kHz)
Stereo Separation ..... 40 dB (1 kHz)
Frequency Response ..... 30 Hz to 15 kHz (± 1) dB
Antenna Input ..... 75 Ω unbalanced

AM Tuner Section

Frequency Range ..... 531 kHz to 1,602 kHz (9 kHz step)
530 kHz to 1,700 kHz (10 kHz step)
Sensitivity (IHF, Loop antenna) ..... 350 μV/m
Selectivity ..... 25 dB
Signal-to-Noise Ratio ..... 50 dB
Antenna ..... Loop antenna

Miscellaneous

Power Requirements
U.S. and Canadian models ..... AC 120 V, 60 Hz
Multi-voltage model ... AC 110 V/120-127 V/220 V/240 V (Switchable), 50/60 Hz
Power Consumption
U.S. and Canadian models 340W, 500VA
Multi-voltage model ..... 905 W
In Standby Condition 3W
AC Outlets
U.S. and Canadian models
SWITCHED ..... 100 W (0.8 A) MAX
Multi-voltage model
SWITCHED ..... 100 W MAX
Dimensions ..... 420 (W) × 155 (H) × 300 (D) mm
16-9/16 (W) × 6-1/8 (H) × 11-13/16 (D) in
Weight (without package) ..... 9.5 kg (20 lb 15 oz)

Furnished Parts

FM Antenna 1
AM Loop Antenna 1
Dry Cell Batteries
[size "AAA" (IEC LR03/AM-4)] 2
Remote Control Unit 1
Operating Instructions 1

NOTE:
Specifications and the design are subject to possible modifications without notice, due to improvements.

Dear Customer:

Selecting fine audio equipment such as the unit you've just purchased is only the start of your musical enjoyment. Now it's time to consider how you can maximize the fun and excitement your equipment offers. This manufacturer and the Electronic Industries Association's Consumer Electronics Group want you to get the most out of your equipment by playing it at a safe level. One that lets the sound come through loud and clear without annoying blaring or distortion-and, most importantly, without affecting your sensitive hearing.

Sound can be deceiving. Over time your hearing "comfort level" adapts to higher volumes of sound. So what sounds "normal" can actually be loud and harmful to your hearing. Guard against this by setting your equipment at a safe level BEFORE your hearing adapts.

To establish a safe level:
- Start your volume control at a low setting.
- Slowly increase the sound until you can hear it comfortably and clearly, and without distortion.

Once you have established a comfortable sound level:
- Set the dial and leave it there.

Taking a minute to do this now will help to prevent hearing damage or loss in the future. After all, we want you listening for a lifetime.

We Want You Listening For A Lifetime

Used wisely, your new sound equipment will provide a lifetime of fun and enjoyment. Since hearing damage from loud noise is often undetectable until it is too late, this manufacturer and the Electronic Industries Association's Consumer Electronics Group recommend you avoid prolonged exposure to excessive noise. This list of sound levels is included for your protection.

Decibel Level	Example
30	Quiet library, soft whispers
40	Living room, refrigerator, bedroom away from traffic
50	Light traffic, normal conversation, quiet office
60	Air conditioner at 20 feet, sewing machine
70	Vacuum cleaner, hair dryer, noisy restaurant
80	Average city traffic, garbage disposals, alarm clock at two feet.

THE FOLLOWING NOISES CAN BE DANGEROUS UNDER CONSTANT EXPOSURE

90	Subway, motorcycle, truck traffic, lawn mower
100	Garbage truck, chain saw, pneumatic drill
120	Rock band concert in front of speakers, thunderclap
140	Gunshot blast, jet plane
180	Rocket launching pad

Information courtesy of the Deafness Research Foundation.

MAINTENANCE OF EXTERNAL SURFACES
- Use a polishing cloth or dry cloth to wipe off dust and dirt.
- When the surfaces are dirty, wipe with a soft cloth dipped in some neutral cleanser diluted five or six times with water, and wrung out well, and then wipe again with a dry cloth. Do not use furniture wax or cleaners.
- Never use thinners, benzine, insecticide sprays or other chemicals on or near this unit, since these will corrode the surfaces.

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<94L00ZF0Y00>

Printed in Malaysia <ARB7023-A>